What is claimed is:

[Claim 1] An optical transceiver, comprising:

a transmitter comprising a laser diode and a laser driver providing a drive signal to the laser diode;
a receiver comprising a photodiode and signal recovery circuitry; and
a microcontroller coupled to the transmitter and receiver and providing a modulated power control current to the laser during an impulse test mode to transmit high optical power signal and monitoring received signals to detect reflections.

[Claim 2] An optical transceiver as set out in claim 1, wherein said transmitter and receiver are coupled to same fiber.

[Claim 3] An optical transceiver as set out in claim 1, wherein said modulated power control is controlling a laser driver that has modulation and bias power control inputs and wherein said microcontroller modulates said bias control input during said test mode.

[Claim 4] An optical transceiver as set out in claim 1, wherein said microcontroller modulates said power control signal employing a dedicated transistor for direct high current impulse drive of the laser.

[Claim 5] An optical transceiver as set out in claim 1, wherein said receiver further comprises a transimpedance amplifier coupled to the photodiode and wherein said microcontroller monitors the output of said transimpedance amplifier during said impulse test mode.

[Claim 6] An optical transceiver as set out in claim 5, further comprising a comparator coupled between the output of said transimpedance amplifier and said microcontroller, for detecting signals at the output of the transimpedance amplifier.

[Claim 7] An optical transceiver as set out in claim 6, wherein said comparator detection level is controlled during the impulse test mode to be more sensitive than during data transport mode.

[Claim 8] An optical transceiver as set out in claim 1, wherein the impulse test signal comprise a code sequence.

[Claim 9] An optical transceiver as set out in claim 1, wherein said microcontroller is capable to detect the code sequence at the output of the comparator.

[Claim 10] A method for detection of high optical reflection in a fiber optic network, comprising:

transmitting an impulse test signal by modulating a laser transmitter using an impulse test transmission mode which is different than a data transmission mode used during normal operating conditions; and

detecting any received signals modulated using said test transmission mode within a predetermined time period after said transmitting.

[Claim 11] A method for fault detection in a fiber optic network as set out in claim 10, wherein said test transmission mode comprises modulating the laser at a power level above the minimum threshold for normal data transmission.

[Claim 12] A method for fault detection in a fiber optic network as set out in claim 10, wherein said test transmission mode comprises modulating the laser at a frequency substantially lower than during normal data transmission.

[Claim 13] A method for high reflection detection in a fiber optic network as set out in claim 10, further comprising detecting and measuring the time delay for receiving the reflected test pulse and determining the location of the reflection.

[Claim 14] A method for fault detection in a fiber optic network as set out in claim 10, further comprising increasing the laser transmitter power during transmission of said short duration test pulse.

[Claim 15] A method for fault detection in a fiber optic network as set out in claim 10, further comprising increasing the detection sensitivity after the transmission of the said short duration test pulse.